CLAIMS

WHAT IS CLAIMED IS:

1. A method of realizing virtual cycling, the method comprising:

a. Using sensor to detect bicycle speed and direction;

b. Generating electricity through pedal by driving the generator with convertible interior magnetic field;

c. Displaying the scene according to current location by the computer installed with virtual scene database;

d. Changing the current location and corresponding scenes by the setup, the detected speed and direction; and

e. Auto adjusting interior magnetic field of the said generator according to the changing scenes, thus to alter the cycling resistance produced hereby.

2. A virtual cycling method according to claim 1, wherein the scene database include many corresponding data of different cycling game, resistance parameter correspondent with the afore said scenes, wherein the resistance parameter may comprise the cycle-way gradient value of the current scene.

3. A method according to claim 1 further comprising the steps of:

a. Using the speed detecting method to calculate current speed of the simulated bicycle;

b. Obtaining the resistance parameter from the said database, then calculating current resistance based on the speed and resistance parameter; and

c. Adjusting interior magnetic field and load of the generator by resistance parameter obtained from scene database.

4. A method according to claim 1 further comprising magnifying the pedaling speed on multilevel to the extent that meets the rotate speed requirement of generator's rating output with the sprocket wheel and pulley wheels.

5. A method according to claim 1 further comprising magnifying the rotate angle of the faucet on multilevel to improve the test precision.

6. A method according to claim 1 further comprising sound output simulating the background sound of changing scene. The sensor may comprise direction sensor on detecting the bicycle faucet rotate direction and speed sensor detecting bicycle wheels rotate speed.

7. A virtual cycling apparatus comprising bicycle model, direction detector fixed on faucet devices, the speed detector and damp force device that fixed on pedal devices, computer system and display system connected with the above three devices which is applied in data conducting, virtual scene output and the corresponding resistance adjusting signal output. The damp device produces resistance according to resistance adjusting signal. Both the direction detecting device and speed detecting device have their own sensors. The damp device includes generator with an interior convertible magnetic field.

8. A virtual cycling apparatus as defined in claim 7 wherein the direction detector includes two gear wheels (one big and one small) and a sensor linked with the small one; the big wheel connecting with the faucet bracket is positioned under the bracket.

9. A virtual cycling apparatus as defined in claim 7 wherein the pedaling device comprises pedal, driver on axis, driven wheel on rotate co-axis and secondary driver, secondary driven wheel on rotate co-axis and third-rate driver, the third-grade driven and chain or pulley between driver and driven at different grade. The sensor on speed detector can be fixed on each wheel of driver and driven wheel at different grade.

10 A virtual cycling apparatus as defined in claim 7 wherein the damp device comprises damp controller connecting with computer system, excitation voltage adjustor connecting with the output end of the controller, generator connecting with the output end of the adjustor, and load adjustor whose loop and input end are connected with the said controller, and the output end is connected with the adjustable load. The loop includes load forming electrical loop between generator and the output voltage test circuit connecting with computer system. The generator rotor is on the axis of the third-rate driven wheel. The load is adjustable.